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Claims

- 1! A method for selecting a diversity mode (A, B, C) to be applied by
 - 5 a transmitter having two cross-polarized antenna arrays (Ant1, Ant 2), each representing a diversity branch, for transmission diversity,
- 10 the method comprising the steps of:
 - providing (S10) a plurality of diversity mode performance chart look-up tables (LUT, LUT1, LUT2, LUT3), each performance chart look-up table mapping a respective individual diversity mode (A, B, C) out of a plurality of individual diversity modes to a respective pair of time correlation value (TC) and space correlation value (SC) for said two cross-polarized antenna array beams,
- 15 wherein a respective individual diversity mode is presented by a mapping area,
- 20 wherein the plurality of performance chart look-up tables is parameterized by an indication of a ratio (P1/P2) of received powers from said diversity branches, and
- 25 the mapping is different for different performance charts,
 - first determining (S11) the ratio of received powers from said diversity branches,
 - second determining (S12) the actual time correlation
- 30 and space correlation for said pair of two cross-polarized antenna arrays,
 - first selecting (S13) one of said performance chart look-up tables dependent on determined ratio (P1/P2) of received powers from separate beams, and

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second selecting (S14) one of said individual diversity modes (A, B, C) according to the mapping to the determined actual time correlation (TC) and space correlation (SC) values from said first selected
5 performance chart look-up table.

2. A method according to claim 1, wherein
said selected diversity mode is selected for each
individual link established by the transmitter.

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3; A method according to claim 1, wherein
said mapping of diversity modes differs for
different performance chart look-up tables dependent on
the determined ratio of received powers from said
15 diversity branches.

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4. A method according to claim 1, wherein
said diversity modes are classified as open-loop
diversity modes (A) and closed-loop diversity modes (B,
C), and

25 said determined ratio of received powers is applied
as a further control parameter for controlling said
closed-loop diversity modes when activated upon
selection.

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5; A method according to claim 3, wherein
said diversity modes are classified as open-loop
diversity modes and closed-loop diversity modes, and
a mapping area of at least one closed-loop diversity
30 mode (C) increases (Fig. 2, Fig. 3) dependent on the
indication of a ratio of received powers from said
diversity branches.

6. A method according to claim 1, wherein

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said first determining and said second determining are performed at said transmitter.

7. A method according to claim 1, wherein

5 providing said performance chart look-up tables is effected beforehand based on simulation results and/or measurement cycles.

8. A method according to claim 1, wherein

10 both arrays consists of one antenna element and antenna calibration in the transmitter is performed by using both the feedback from said receiver according to one of the closed-loop modes, and the received signals from cross-polarized antenna arrays in the transmitter.

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